Is gravitational search algorithm's initial gravitational constant a function dependent parameter?

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ABSTRACT

Gravitational search algorithm (GSA) has several parameters to be initialized. One of the parameter is the initial gravitational constant G_0. In the original GSA G_0 is initialized to 100. Here, the robustness of this setting is evaluated using several test functions. The value of G_0 is varied between 10 to 100000. The results from the experiment are statistically compared. It is found that G_0 is a function dependent parameter and its original value is not a robust setting.